KANGO®

9800 0329 01 a

840M

Date Code
0011L2001

GB

General

For best performance hammers should be serviced at regular intervals, any indication that the hammer is not performing as specified should be investigated to prevent any adverse damage occuring.

ALL SEALS, GASKETS, GREASE OR OTHER PARTS DEEMED NECESSARY FOR SERVICING ARE IN THE SERVICE KIT.

ALL NEEDLE ROLLER BEARINGS SHOULD BE PRESSED WITH THE ROUNDED EDGE ENTERING THE BORE FIRST, AND THE PRESS TOOL PRESSING AGAINST THE FLAT SURFACE OF THE BEARING.

Cleaning

All mechanical parts with the exception of any sealed bearings should be cleaned in a suitable cleaning fluid. Electrical parts should be cleaned by the use of compressed air. PRECAUTIONS MUST BE TAKEN FOR PERSONAL SAFETY THE USE OF EYE PROTECTION AND GLOVES IS RECOMMENDED.

Inspection

All mechanical and electric parts should be inspected for wear and replaced as required.

WARRANTY AND LIABILITY STATEMENT

Use only Authorized parts. Any damage or malfunction caused by the use of unauthorized parts is not covered by Warranty or Product Liability.

SERVICE TOOLS

All repairs may be completed with standard workshop tools and equipment.

00 | 0 **EXAMPLE:**
Component Parts (Small #)
Are Included When Ordering
The Assembly (Large #).

▲ *SEE PAGE 5 FOR ADDITIONAL LUBRICATION AND SERVICE NOTES*

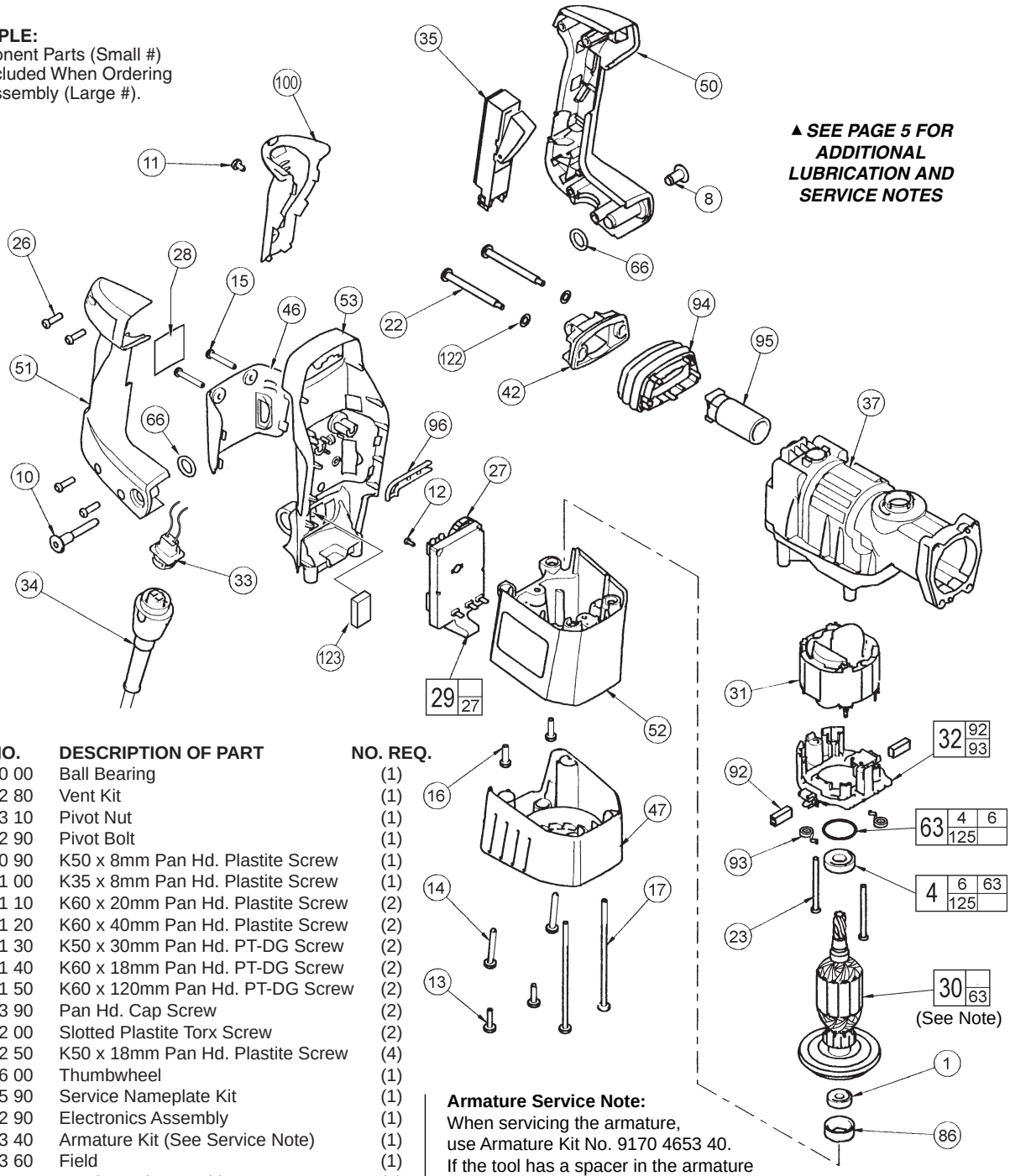
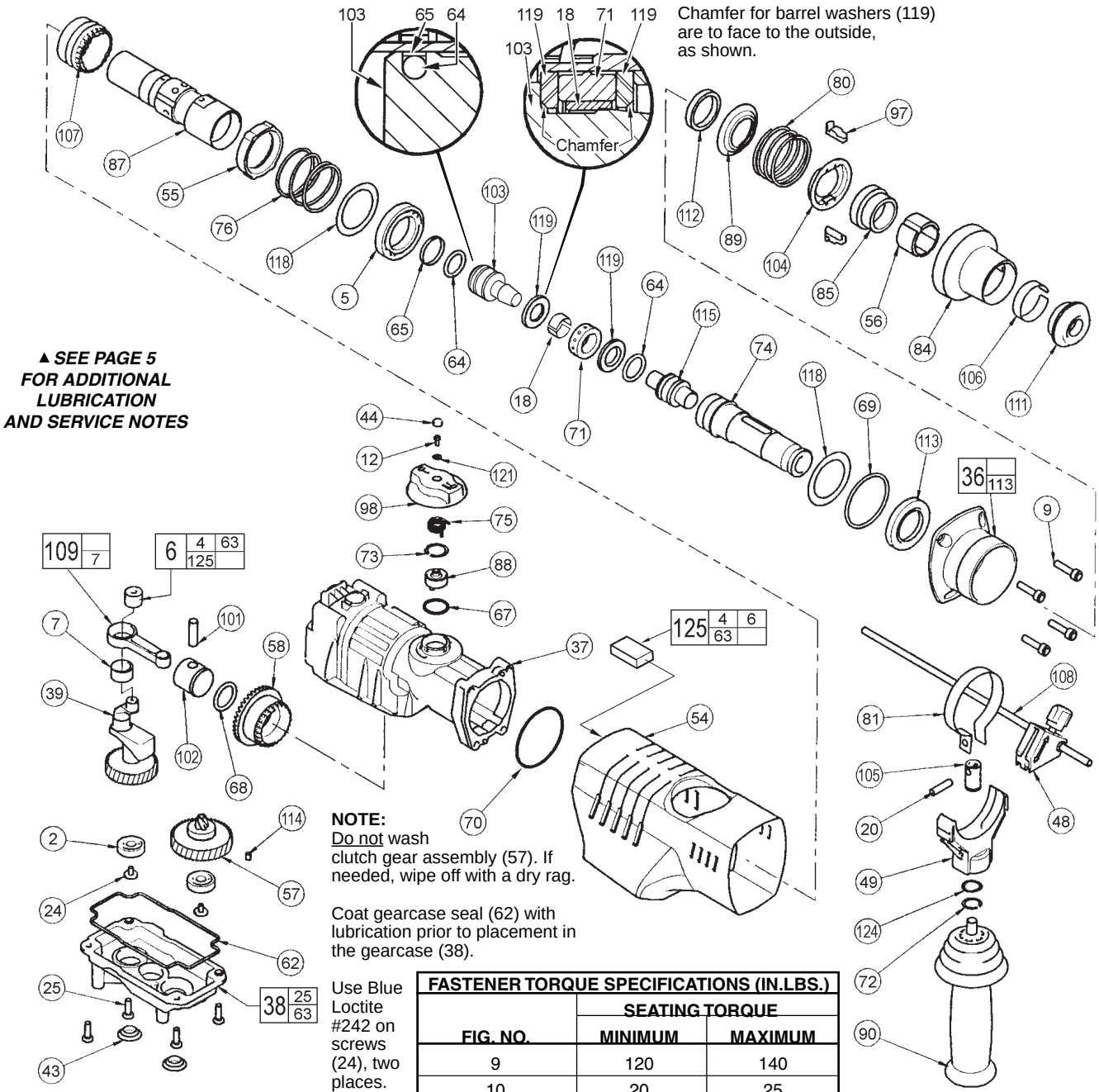


FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	9170 4650 00	Ball Bearing	(1)
4	9170 4672 80	Vent Kit	(1)
8	9170 3253 10	Pivot Nut	(1)
10	9170 3252 90	Pivot Bolt	(1)
11	9170 4650 90	K50 x 8mm Pan Hd. Plastite Screw	(1)
12	9170 4651 00	K35 x 8mm Pan Hd. Plastite Screw	(1)
13	9170 4651 10	K60 x 20mm Pan Hd. Plastite Screw	(2)
14	9170 4651 20	K60 x 40mm Pan Hd. Plastite Screw	(2)
15	9170 4651 30	K50 x 30mm Pan Hd. PT-DG Screw	(2)
16	9170 4651 40	K60 x 18mm Pan Hd. PT-DG Screw	(2)
17	9170 4651 50	K60 x 120mm Pan Hd. PT-DG Screw	(2)
22	9170 3253 90	Pan Hd. Cap Screw	(2)
23	9170 4652 00	Slotted Plastite Torx Screw	(2)
26	9170 3252 50	K50 x 18mm Pan Hd. Plastite Screw	(4)
27	9170 4666 00	Thumbwheel	(1)
28	9170 4665 90	Service Nameplate Kit	(1)
29	9170 4652 90	Electronics Assembly	(1)
30	9170 4653 40	Armature Kit (See Service Note)	(1)
31	9170 4653 60	Field	(1)
32	9170 4654 00	Brush Card Assembly	(1)
33	9170 4654 10	Blade Housing Assembly	(1)
34	9170 4668 30	Quik-Lok Cord Set	(1)
35	9170 4654 50	Switch	(1)
37	9170 4654 60	Crankcase Assembly	(1)
42	9170 4655 00	Upper Handle Mount	(1)
46	9170 4655 30	Module Cover	(1)
47	9170 4655 40	Motor Cover	(1)
50	9170 4655 70	Left Handle Half	(1)
51	9170 4655 90	Right Handle Half	(1)
52	9170 4656 10	Motor Housing	(1)
53	9170 4656 30	Rear Shroud	(1)
63	9170 4672 80	Vent Kit	(1)
66	9170 4657 80	O-Ring	(2)
86	9170 4673 20 ●	Bearing Cup	(1)

Armature Service Note:
When servicing the armature, use Armature Kit No. 9170 4653 40. If the tool has a spacer in the armature bearing bore of the gearcase, remove the spacer and install O-Ring No. 9170 4673 00 into the empty groove. The O-Ring is provided in the kit.

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
92	9170 4653 80	Carbon Brush Kit (Includes 2 Brushes)	(1)
93	9170 4666 10	Brush Spring	(2)
94	9170 4660 80	Bellows	(1)
95	9170 3254 30	Isolation Module Assembly	(1)
96	9170 4654 90	Light Pipe	(1)
100	9170 4661 40	Cushion Grip	(1)
122	9170 3254 00	Rubber Washer	(2)
123	9170 4662 80	Handle Seal	(1)



▲ *SEE PAGE 5 FOR ADDITIONAL LUBRICATION AND SERVICE NOTES*

NOTE:
Do not wash clutch gear assembly (57). If needed, wipe off with a dry rag.

Coat gearcase seal (62) with lubrication prior to placement in the gearcase (38).

Use Blue Loctite #242 on screws (24), two places.

● 9170 4672 00 HAMMER SERVICE KIT

THIS KIT CONTAINS:

2	9170 4655 10	Cap Plug
1	9170 4657 40	Gearcase Seal
2	9170 3255 50	O-Ring
1	9170 4657 70	Cap Seal
1	9170 4658 00	O-Ring
1	9170 4658 20	O-Ring
1	9170 4673 00	O-Ring
1	9170 4658 30	Damping Washer
1	9170 4673 20	Bearing Cup
2	9170 4663 20	Split Sleeve
1	9170 4672 10	Carbon Brush
1	9170 4672 20	Carbon Brush
1	9170 4664 70	"S2" Grease - 7 oz. Tube

9170 4653 80 CARBON BRUSH SERVICE KIT

THIS KIT CONTAINS:

2	----------	Carbon Brush

FASTENER TORQUE SPECIFICATIONS (IN.LBS.)

FIG. NO.	SEATING TORQUE MINIMUM	SEATING TORQUE MAXIMUM
9	120	140
10	20	25
11	3	6
12	4	8
13	20	25
14	20	25
15	20	25
16	50	55
17	30	35
22	30	35
23	15	20
24	20	25
25	50	55
26	15	20
74	130 FT. LBS.	200 FT. LBS.
87	130 FT. LBS.	200 FT. LBS.
Switch Screws	4	6

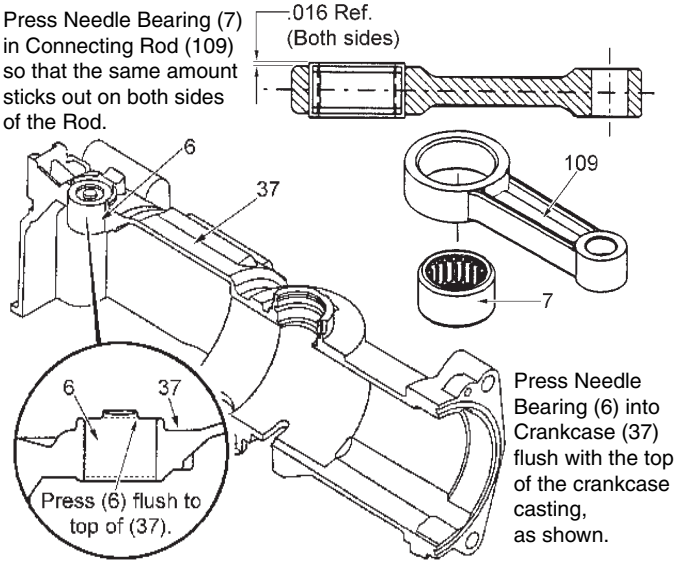
SERVICE GREASE-
"S2" Grease, 7 oz. tube
No. 9170 4664 70

SERVICE CARRYING CASE
No. 9170 4669 30

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
2	9170 3254 90	Ball Bearing	(2)
5	9170 4650 40	Ball Bearing	(1)
6	9170 4672 80	Vent Kit	(1)
7	9170 3255 20	Needle Bearing	(1)
9	9170 4650 70	M6 Socket Head Cap Screw	(4)
12	9170 4651 00	K35 x 8mm Pan Hd. Plastite Screw	(1)
18	9170 4663 20	Split Sleeve	(2)
20	9170 3258 10	Dowel Pin	(1)
24	9170 3254 60	Slotted Taptite Torx Screw	(2)
25	9170 4652 20	K50 x 22mm PT-DG Screw	(4)
36	9170 4653 30	SDS-Max Nose Service Assembly	(1)
37	9170 4654 60	Crankcase Assembly	(1)
38	9170 4671 70	Gearcase Service Kit	(1)
39	9170 4652 80	Crankshaft Assembly	(1)
43	9170 4655 10 ●	5/8 Cap Plug	(2)
44	9170 4655 20	Screw Cap	(1)
48	9170 4666 30	Depth Rod Mount Assembly	(1)
49	9170 3258 00	Side Handle Housing	(1)
54	9170 4656 50	Main Shroud	(1)
55	9170 4656 70	Locking Ring	(1)
56	9170 3258 60	Spacer	(1)
57	9170 4666 40	Clutch Gear Assembly	(1)
58	9170 4657 10	Drive Gear	(1)
62	9170 4657 40 ●	Gearcase Seal	(1)
64	9170 3255 50 ●	O-Ring	(2)
65	9170 4657 70 ●	Capseal	(1)
67	9170 4657 90	O-Ring	(1)
68	9170 4658 00 ●	O-Ring	(1)
69	9170 4658 10	O-Ring	(1)
70	9170 4658 20 ●	O-Ring	(1)
71	9170 4658 30 ●	Damping Washer	(1)
72	9170 3257 80	External Retaining Ring	(1)
73	9170 4658 60	Retaining Ring	(1)
74	9170 4658 70	Spindle	(1)
75	9170 4659 00	Shift Spring	(1)
76	9170 4659 10	Compression Spring	(1)
80	9170 3259 30	Key Spring	(1)
81	9170 3258 80	Side Handle Band	(1)
84	9170 3258 50	Chuck Collar	(1)
85	9170 3258 70	Collar	(1)
87	9170 4660 30	Barrel	(1)
88	9170 4666 50	Shift Disk Assembly	(1)
89	9170 4660 50	Spring Flange	(1)
90	9170 3257 70	Side Handle Assembly	(1)
97	9170 3259 10	Keys	(2)
98	9170 4653 10	Shift Knob Assembly	(1)
101	9170 4661 60	Wrist Pin	(1)
102	9170 4661 70	Piston	(1)
103	9170 4661 80	Ram	(1)
104	9170 3259 20	Key Retaining Ring	(1)
105	9170 3258 20	Band Retainer	(1)
106	9170 3258 40	Seal Retaining Ring	(1)
107	9170 4662 20	Shift Ring	(1)
108	9170 3257 60	Depth Gauge Rod	(1)
109	9170 3255 10	Connecting Rod Assembly	(1)
111	9170 3258 30	Dust Seal	(1)
112	9170 4663 10	Felt Seal	(1)
113		Spindle Seal	(1)
114	9170 4663 30	Retaining Slug	(1)
115	9170 4663 60	SDS-Max Striker	(1)
118	9170 4664 00	Washer	(2)
119	9170 4664 10	Barrel Washer	(2)
121	9170 4664 30	Washer	(1)
124	9170 3257 90	Wave Washer	(1)
125	9170 4672 80	Vent Kit	(1)

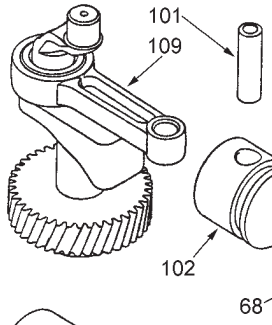
NOTE: Check the clutch torque. Clutch must slip at 40 to 50 ft.lbs. at the spindle, checked clockwise as viewed from the front of the tool.

Press Needle Bearing (7) in Connecting Rod (109) so that the same amount sticks out on both sides of the Rod.



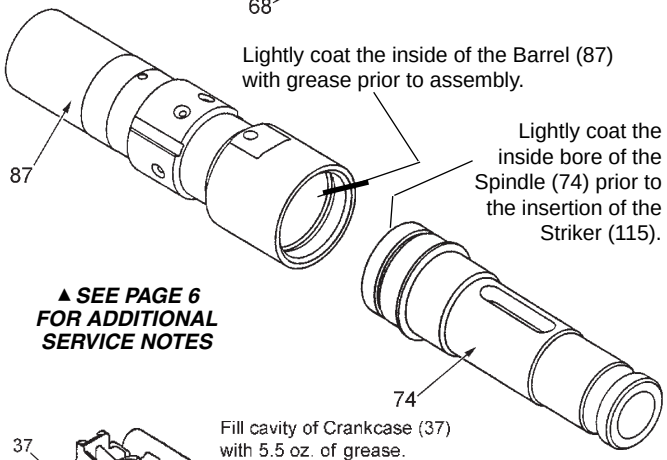
Press Needle Bearing (6) into Crankcase (37) flush with the top of the crankcase casting, as shown.

LUBRICATION NOTES: ***(TYPE "S2" GREASE, NO. 9170 4664 70)***



Fill Piston (102) with "S2" grease and assemble to Connecting Rod (109) with the Wrist Pin (101). Front surface of Piston (102) and the Ram (103) is to be free of grease.

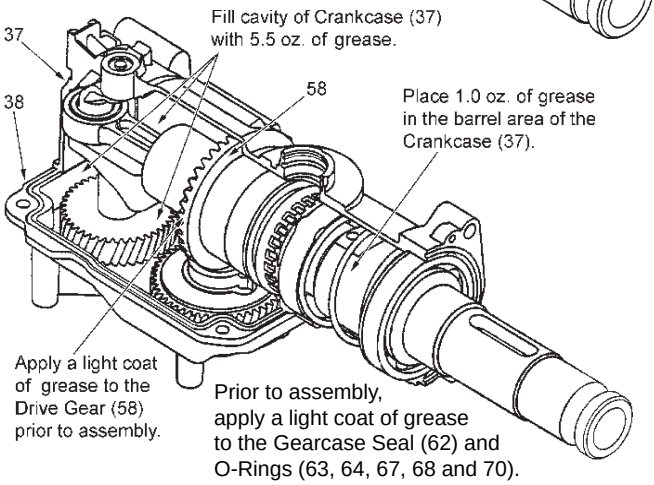
Lubricate the O-Ring (68) with grease.



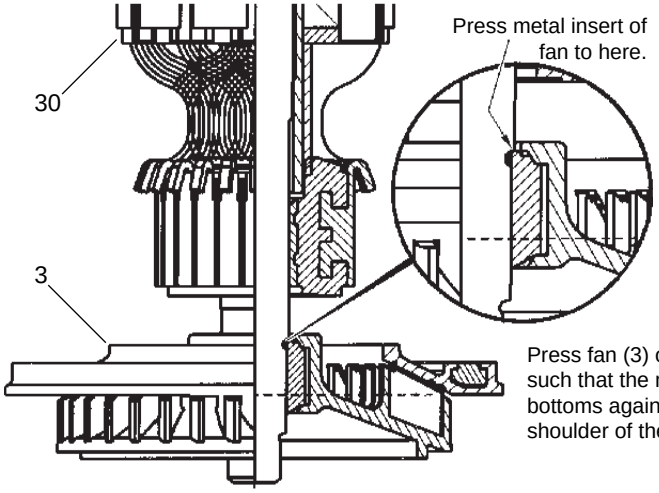
Lightly coat the inside of the Barrel (87) with grease prior to assembly.

Lightly coat the inside bore of the Spindle (74) prior to the insertion of the Striker (115).

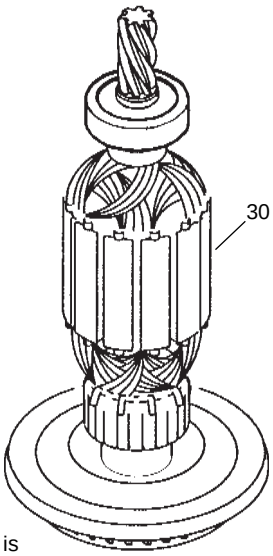
▲ SEE PAGE 6 FOR ADDITIONAL SERVICE NOTES


37
38
58
Fill cavity of Crankcase (37) with 5.5 oz. of grease.
Place 1.0 oz. of grease in the barrel area of the Crankcase (37).
Apply a light coat of grease to the Drive Gear (58) prior to assembly.

Prior to assembly, apply a light coat of grease to the Gearcase Seal (62) and O-Rings (63, 64, 67, 68 and 70).

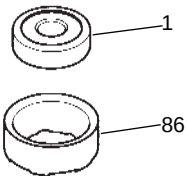


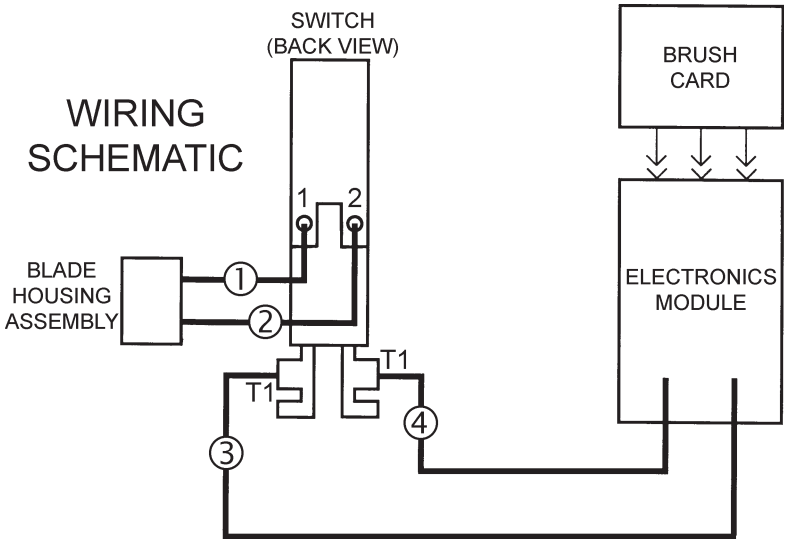
Press fan (3) onto armature (30) such that the metal insert of the fan bottoms against the fan journal shoulder of the armature shaft.



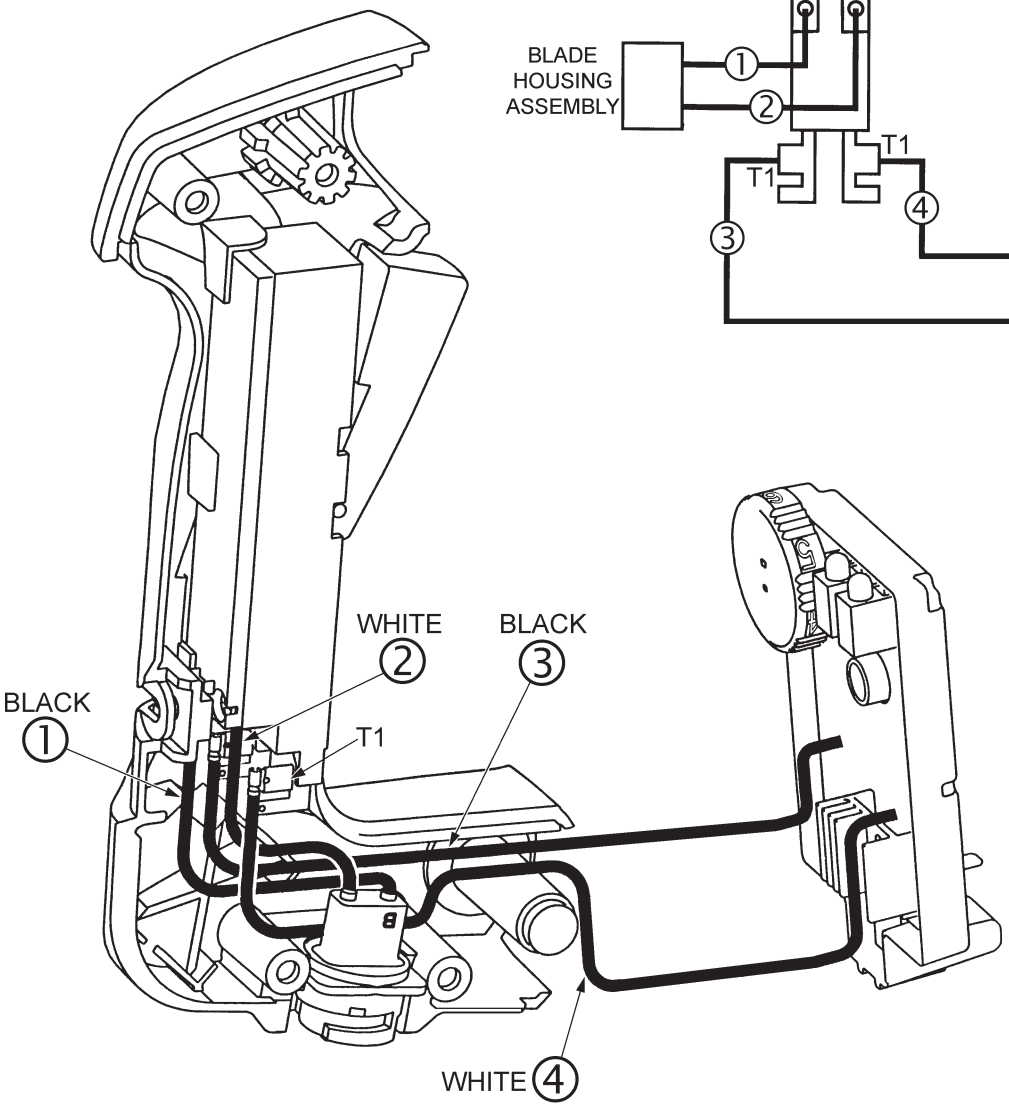
After the armature assembly (30) is installed into the tool, the bearing cup (86) is to be placed on the rear armature bearing (1), (already pressed onto the armature shaft), prior to assembling the motor cover (47) to the tool.

NOTE: Do not dislodge the bearing cup from the bearing during assembly.





NOTE:
Module wires #3 and #4
<u>are not</u> polarity sensitive.



WIRING SPECIFICATIONS

Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
1	Black	Blade Hsg.	-----	Component of blade housing assembly.
2	White	Blade Hsg.	-----	Component of blade housing assembly.
3	Black	Elect. Mod.	-----	Component of electronics module. Strip 1/4" for T1.
4	Black	Elect. Mod.	-----	Component of electronics module. Strip 1/4" for T1.

TERMINAL DESCRIP-

Code	Part No.	Qnty.
T1	9170 4666 90	2

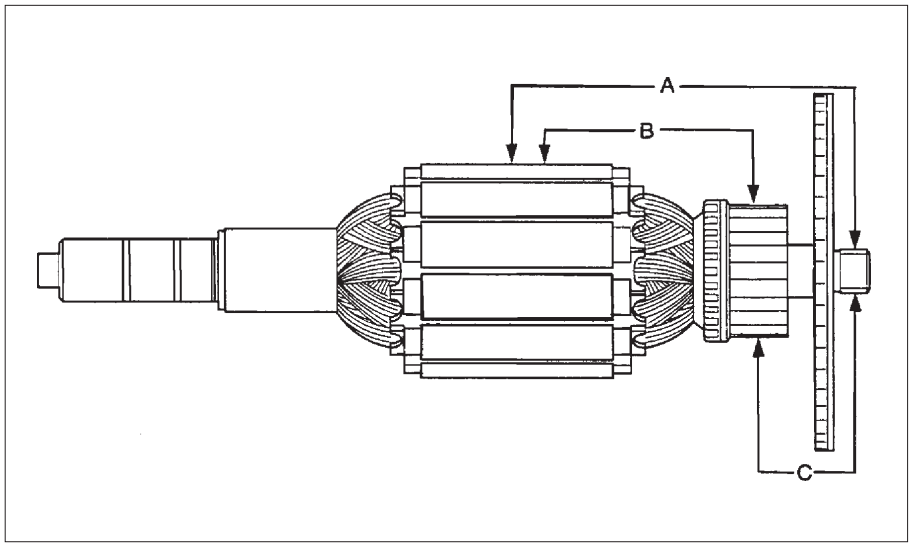
ELECTRICAL TESTING

Electrical test

Before assemby all electrical parts MUST be checked for safety, and that they conform to specification.

Testing the Armature (Flash Testing)

A	Armature shaft to lamination pack	1500 Volts (min)
B	Lamination pack to commutator	1200 Volts (min)
C	Armatuure shaft to commutator	3000 Volts (min)



ELECTRICAL PERFORMANCE TEST READINGS

ARMATURES			
MODEL	**110V**	**120V**	**220V-240V**
840M	.440/.506 Ohms	.440/.506 Ohms	1.283/1.477 Ohms
FIELD COILS			
840M	**110V**	**120V**	**220V-240V**
	.349/.401 Ohms	.349/.401 Ohms	1.339/1.54 Ohms
PERFORMANCE			
Running No Load			
840M	**110V**	**120V**	**220V-240V**
	4.5/6.5 Amps	4.5/6.5 Amps	2.9/4.4 Amps

CLUTCH SLIP

Measured on disassembly/assembly 40/50ft lbs 47/61Nm. (Non Electrical Test)

Note: On all test readings + or -5% of figures shown is acceptable.

WARNING

LETHAL VOLTAGES PRESENT!!

IMPORTANT

On completion of the assembly, the unit must be flash tested at 4000 volts.

Flash Test

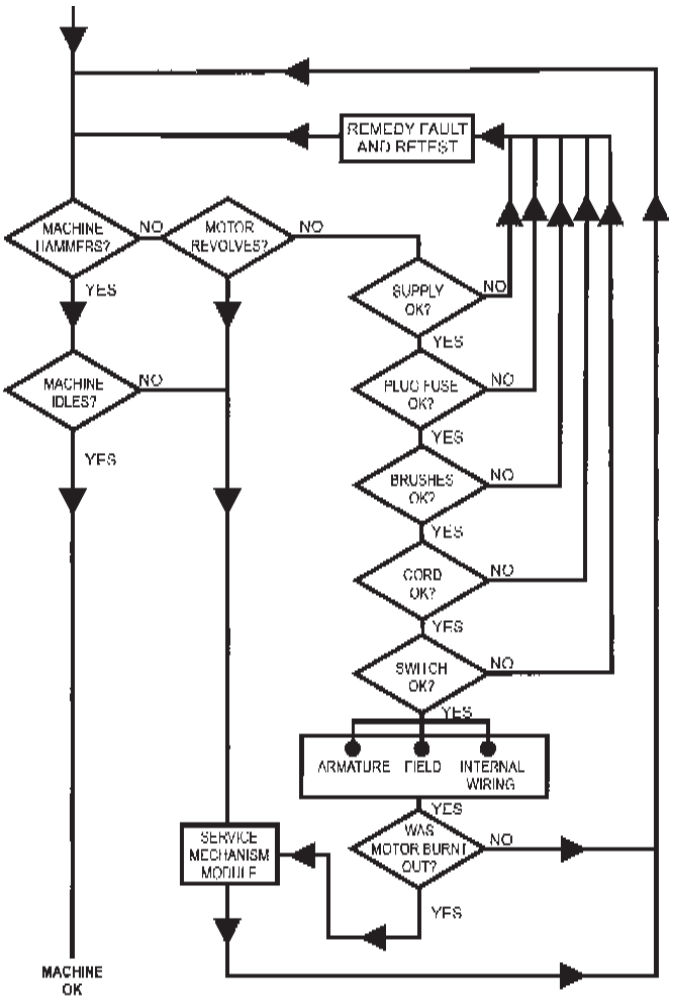
1. With the breaker completely assembled and with the switch "ON", apply 2000 volts initially and increase rapidly to 4000 volts between the main casting and one of the pins of the plug on the power supply cord. Apply test to both live and neutral pins.
2. The full voltage of 4000 volts should be maintained without breakdown or flashover for a few seconds.
3. If the armature has been tested, remove the carbon brushes before carrying out the test, (thus avoiding overstressing the armature insulation system).
4. The test voltage must be applied between the main casting and each live pin of the plug in succession.

Running Test

1. Ensure the unit is switched "ON" before testing. Operate the unit for approx. 10 minutes at half voltage for initial 'bedding in' of the carbon brushes followed by full operational voltage. Compare readings with Performance Data.

FAULT FINDING

With the aid of the Fault Finding chart (below) the source of any malfunction may be quickly identified and repaired.



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